Sinkhole Treatment B : Soil Cover

Procedure:

1. Remove and properly dispose of materials dumped in and around the sinkhole.

2. Excavate loose material from the sinkhole and try to expose the solution void(s) in the bottom. Enlarge the sinkhole, as necessary, to allow for installation of the filter materials.

3. Select a field stone(s) that is about 1.5 times larger than the solution void(s). Place the stone(s) into the void(s) forming a secure "bridge."

4. Place a layer of filter material over the "bridge" at a minimum thickness of 18 inches. About 30 percent of the material should be larger than the openings between the bridge and the void(s). (A well placed "bridge" should not have large openings around it.) This material should be R-3 stone.

5. Place a layer of smaller size filter material over the previous layer at a minimum thickness of 9 inches. The size should be 1/4 to 1/2 the size of the previous layer. This material should be No. 57 stone.

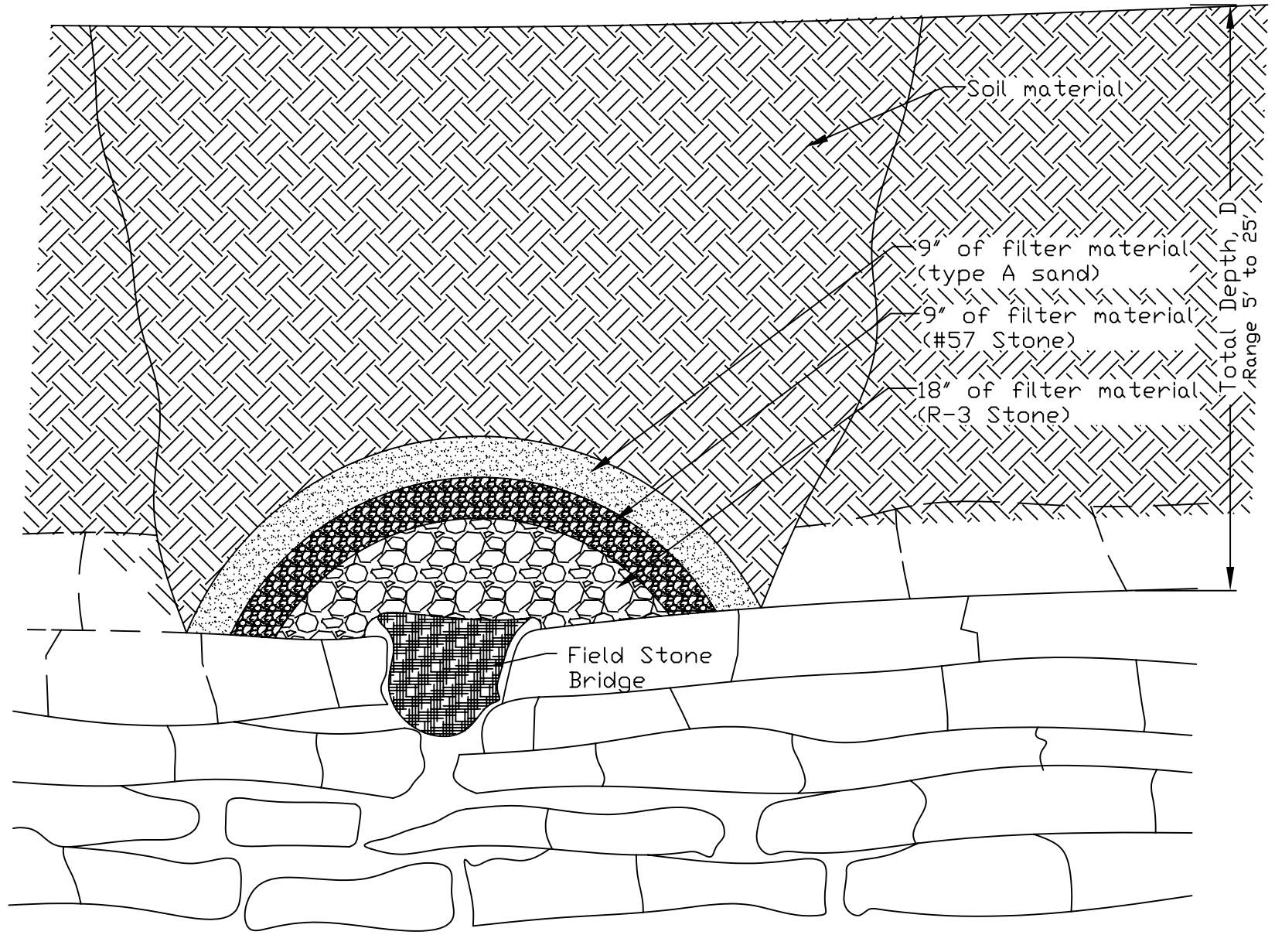
6. Place a layer of sand size filter material over the previous layer at a minimum thickness of 9 inches. The sand must be compatible in size with the previous layer to prevent piping. This material should be Type "A" sand.

7. Backfill over the last filter layer (or filter cloth) with soil material to the surface. Overfill by about 5 percent to allow for settlement. The material should be mineral soil with at least 12 percent fines. The reuse of any soil material excavated from the sinkhole should be considered and any available topsoil should be placed on the surface.

Notes:

A non-woven geotextile with a burst strength between 100 to 200 psi can be substituted for the stone and sand filter materials discussed in 5 and 6.

Stone for the "bridge" and the filters should have a rock strength at least equal to "moderately" hard (i.e. resistant to abrasion or cutting by a knife blade but can be easily dented or broken by light blows with a hammer). Shale or similar soft and non-durable rock is not acceptable.



Section

Not to Scale

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Sinkhole Treatment B

NRCS
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